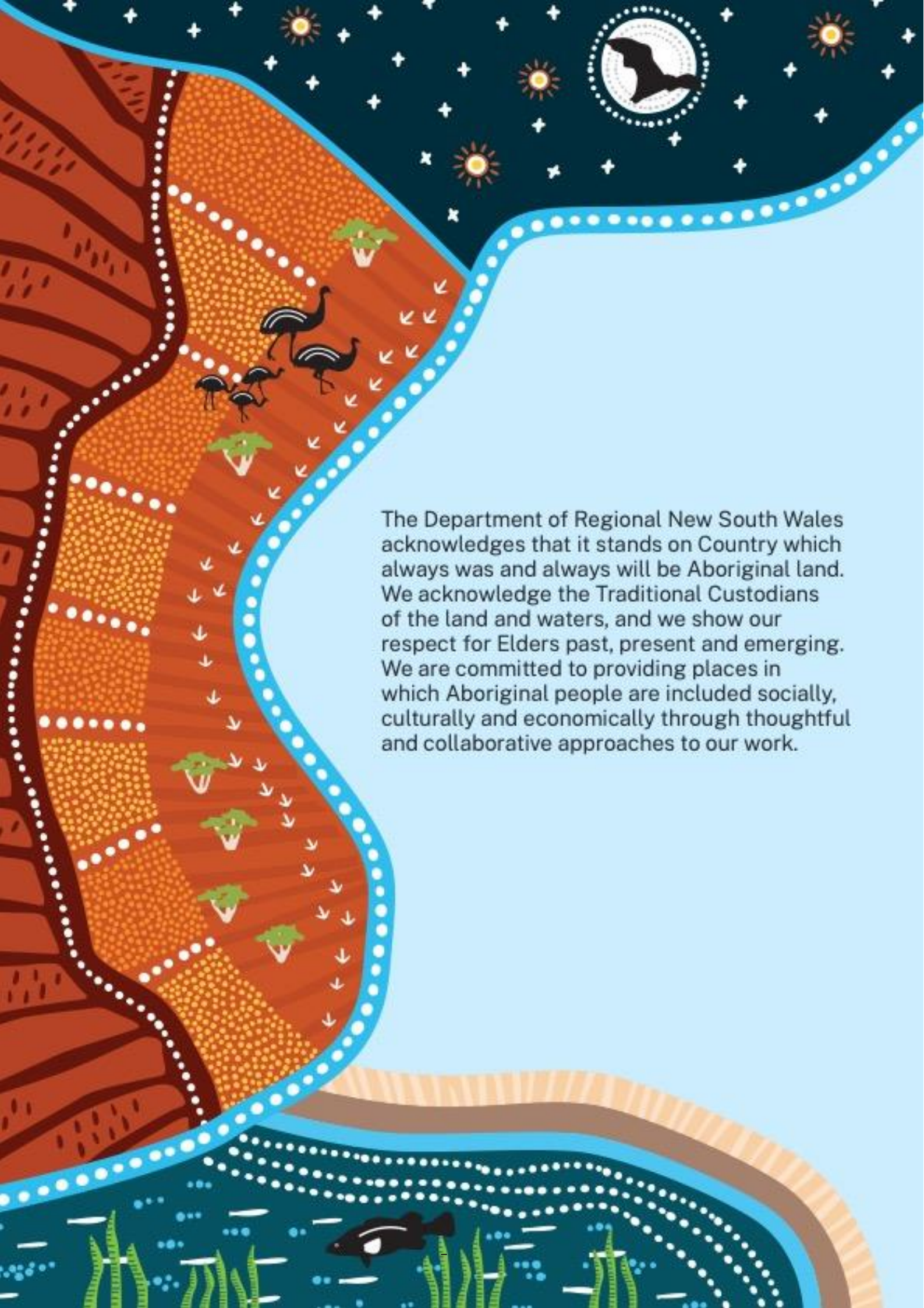


# Upper North West Regional Economic Development Strategy – 2023 Update







The Department of Regional New South Wales acknowledges that it stands on Country which always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for Elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work.

## **Published by the Department of Regional NSW**

Title: Upper North West Regional Economic Development Strategy - 2023 Update

First published: February 2023

## **Acknowledgements**

The Department of Regional NSW would like to acknowledge the significant contribution of many stakeholders in the Upper North West region to the development of the 2023 REDS Update, with particular thanks to staff from Gwydir, Inverell, Moree Plains and Narrabri Councils. The Department of Regional NSW also acknowledges the assistance provided by PricewaterhouseCoopers and ProjectsJSA to help deliver the 2023 REDS Update project.

## **On Country – Artwork by Mumbulla Creative**

"On Country" captures the many different countries located within the Department of Regional NSW footprint. Only part of the image is shown on the Acknowledgement of Country page. The regions included in this partial image are detailed below.

The Far West region of NSW is represented by red earth plains, mallee scrubs and an abundant emu population. Freshwater countries are referenced by the expansive network of rivers stretching through the regions. The Riverina Murray region is represented by the roots of a river redgum on the banks of a river, and a large Murray Cod can be seen in the river. The night sky features as it plays an important navigational and story-telling role in traditional life.

Cover image: Kaputar Ranges. Photo credit: Narrabri Shire Council

---

© State of New South Wales through the Department of Regional NSW 2023. You may copy, distribute, display, download and otherwise freely deal with this publication for any purpose, provided that you attribute the Department of Regional NSW as the owner. However, you must obtain permission if you wish to charge others for access to the publication (other than at cost); include the publication in advertising or a product for sale; modify the publication; or republish the publication on a website. You may freely link to the publication on a departmental website.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (February 2023) and may not be accurate, current or complete. The State of New South Wales (including the Department of Regional NSW), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties). Readers should make their own enquiries and rely on their own advice when making decisions related to material contained in this publication.

# Table of contents

<b>Table of contents</b> .....	<b>4</b>
<b>1. Executive summary</b> .....	<b>5</b>
Changes in the Upper North West region since 2018.....	5
Key themes from local consultation.....	6
Upper North West REDS – 2023 Update strategies and enablers.....	7
<b>2. About the 2023 REDS Update</b> .....	<b>8</b>
<b>3. About the Upper North West region</b> .....	<b>9</b>
<b>4. The 2018 Upper North West REDS and 2020 Bushfire Addendum</b> .....	<b>10</b>
<b>5. The big picture: Shocks and trends impacting the Upper North West region since 2018</b> .....	<b>12</b>
Significant events impacting major industries.....	12
Macroeconomic trends shaping the region’s future.....	14
<b>6. Responding to change: Initiatives and investments since 2018</b> .....	<b>16</b>
Significant investments since 2018.....	17
<b>7. Upper North West 2023 economic snapshot</b> .....	<b>20</b>
Demographics.....	20
Housing.....	21
Employment.....	22
Upper North West region 2023 engine and emerging industries.....	24
Upper North West region 2023 endowments.....	26
<b>8. Looking ahead: Strategic opportunities for growth, resilience and liveability</b> .....	<b>27</b>
Opportunities and vulnerabilities in engine and emerging industries.....	27
Key themes in stakeholder consultation.....	31
Upper North West REDS – 2023 update strategies.....	31
Key enablers of economic growth.....	32
<b>9. References</b> .....	<b>34</b>

---

# 1. Executive summary

## Changes in the Upper North West region since 2018

In 2018, the NSW Government developed Regional Economic Development Strategies (REDS) for 38 Functional Economic Regions (FERs) across regional NSW. Since publication, regional NSW has endured shocks including bushfires, floods, COVID-19 and the mouse plague, and significant new economic opportunities have emerged. The 2023 REDS Update provides an updated evidence base to guide governments in making policy and investment decisions to enhance resilience and drive sustainable, long-term economic growth in regional NSW.

### The Upper North West region has seen significant investment delivered since 2018, with additional projects in the planning or delivery stages



**\$194 million** initial investment in the **Moree Special Activation Precinct** and ongoing master planning underway for the **Narrabri Special Activation Precinct**.



More than **\$1 billion** committed to deliver a number of major **renewable energy projects**.



Investment of **\$140 million** to deliver upgrades to **Moree and Inverell hospitals**.



**Major transport infrastructure upgrades** across the region worth over **\$350 million**

### The Upper North West region has experienced increasing job vacancies and reductions in housing vacancy rates since the COVID-19 pandemic



**-2.1%** population growth since 2018.



Housing vacancy rates sit around **1%**, with median house prices having **risen by an average of 25%** since 2018.



The proportion of the population **over 55 years old** has increased by **1.1 %** since 2018.



**Unemployment rates** across the region vary **between 5.4% and 8.5%**, while job vacancies reached a record 1,456 in August 2022.



## The Upper North West region's key industries (agriculture, mining and manufacturing) have remained resilient, while electricity supply is an emerging industry.



### Agriculture

+ 5.4 % year on year (YoY) growth from 2011-2020

\$ 591 million gross value added (GVA) in 2020

3,938 jobs supported in 2021



### Mining

+ 18.4 % YoY growth from 2011-2020

\$ 1,284 million GVA in 2020

545 jobs supported in 2021



### Manufacturing

+ 0.6 % YoY growth from 2011-2020

\$ 182 million GVA in 2020

1,069 jobs supported in 2021



### Electricity supply (including renewables)

+ 3.2 % YoY growth from 2011-2020

\$ 102 million GVA in 2020

225 jobs supported in 2021

## Key themes from local consultation

Stakeholders from the Upper North West region have highlighted housing availability, building resilience and maximising benefits from major projects as key priorities for the region.

### Housing availability and affordability



The region faces current housing availability shortages and reduced housing affordability, presenting challenges to population growth.

### Taking a long-term view on major projects



A keen desire was expressed around focusing on delivering long-term benefits from major investments, so to ensure projects do not lead to a 'boom-bust' sequence of events.

### Building resilience



Recent shocks have highlighted the importance of incorporating principles of resilience into planning for population growth.

## Upper North West REDS – 2023 Update strategies and enablers

Strategies	Enablers
<p><b>Improve freight efficiency of engine industries of agriculture and mining.</b></p>	<ul style="list-style-type: none"> <li>• Develop a regional transport plan to ensure agriculture and mining freight distribution routes have optimised access to inland rail.</li> </ul>
<p><b>Encourage and deliver investments, increased productivity and value-adding activities within the region.</b></p>	<ul style="list-style-type: none"> <li>• Facilitate uptake of technology in agriculture and manufacturing to improve efficiency and output, including advanced manufacturing and robotics in food processing.</li> </ul>
<p><b>Invest in people, skills, community and lifestyle to address the region’s skills gap.</b></p>	<ul style="list-style-type: none"> <li>• Align with current work underway by undertaking demand studies for future regional housing supply needs which account for the impacts of major projects and include scenario planning across relevant potential growth trajectories.</li> <li>• Invest in liveability and amenities to attract relocating workers and families, including local retail and commercial offerings, recreational facilities, tourism infrastructure and transport connectivity.</li> </ul>
<p><b>Diversify the economy through emerging sectors including renewable energy.</b></p>	<ul style="list-style-type: none"> <li>• Support research and feasibility studies, including in collaboration with Aboriginal land holders, to identify areas of the region which can support additional or expanded renewable energy generation and storage projects.</li> <li>• Enhance the economic resilience of the agricultural industry by encouraging diversification, use of alternate sources of water and industry climate adaptation, as outlined in the Gwydir and Namoi Regional Water Strategies.</li> <li>• Support a diverse visitor economy by developing nature tourism opportunities and infrastructure through private, commercial and government partnerships.</li> </ul>

## 2. About the 2023 REDS Update

In 2018, the NSW Government and local councils developed a series of REDS for 38 Functional Economic Regions (FERs) across regional NSW. FERs are made up of one or more Local Government Areas (LGAs) that work together to create smaller economies with strong economic links.

Supporting the *20-Year Economic Vision for Regional NSW*, the REDS set out a place-based vision and framework for economic development for each FER. The REDS identify each FER's endowments, industry specialisations and key vulnerabilities and opportunities, and outline economic development strategies and actions to leverage these strengths.

Since 2018, regional NSW has endured many challenges including drought, bushfires, floods, COVID-19 and the mouse plague. At the same time a range of broader state-wide trends and actions continue to change the economic landscape across regional NSW, including digital transformation, increased remote working and the shift towards net zero. These challenges and trends have altered the landscape of economic development in many regions and created new opportunities for growth.

The 2023 REDS Update provides an updated evidence base to guide governments in making policy and investment decisions to enhance resilience and drive sustainable, long-term economic growth in regional NSW. The objectives of the update are to:

1. **Highlight progress:** reflect on significant initiatives and investments that have supported progress against the key strategies and actions in the 2018 REDS.
2. **Capture major changes:** identify and assess the impacts of major changes to regional economies since 2018, including the effect of recent 'shocks' such as bushfires/droughts, floods, mouse plagues and the COVID-19 pandemic.
3. **Identify strategic opportunities:** identify key strategic opportunities and vulnerabilities for engine and emerging industries, as well as any changes to local endowments.
4. **Set the foundation for the future:** review, affirm and/or adjust the 2018 strategies, including consideration of new strategies to meet emerging priorities, to ensure they remain relevant.
5. **Identify key enablers to guide future action:** develop a non-exhaustive list of priority enabling actions that will support the 2023 REDS Update strategies.

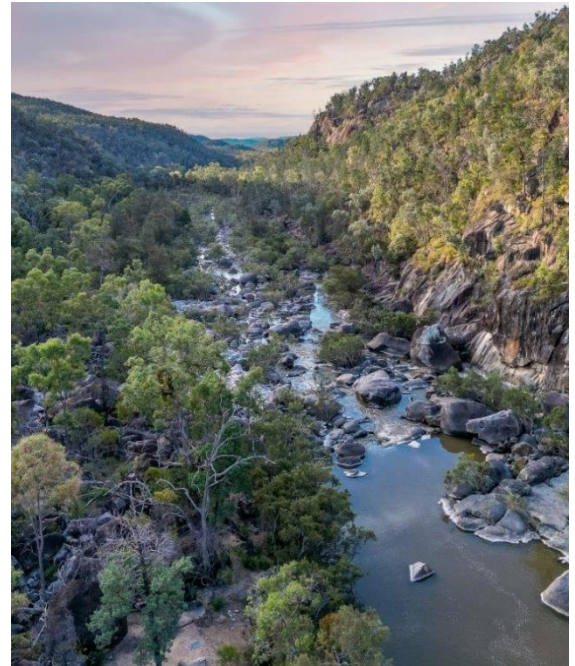


Figure 1: Kwiambal National Park, Macintyre River. Photo credit: David Waugh.



Figure 2: CSIRO telescopes in Narrabri LGA. Photo credit: Narrabri Shire Council.



### 3. About the Upper North West region

The Upper North West region is located in northern NSW and forms the north-western corner of the New England North West region. The region covers an area of 48,778 square kilometres and spans the Namoi, Gwydir and Border River catchments, which are part of the broader Murray Darling Basin. The region includes the Local Government Areas (LGAs) of Moree Plains, Inverell, Gwydir and Narrabri.

Total area covered (km <sup>2</sup> )	48,778
Population (2021)	48,600
Gwydir	4,911
Inverell	17,919
Moree Plains	12,961
Narrabri	12,809
Size of the economy (2020)	\$4.042 billion
Total employment (2021)	19,642

Source: ABS (2021) Estimated Resident Population, REMPLAN (2020), ABS Census (2021)

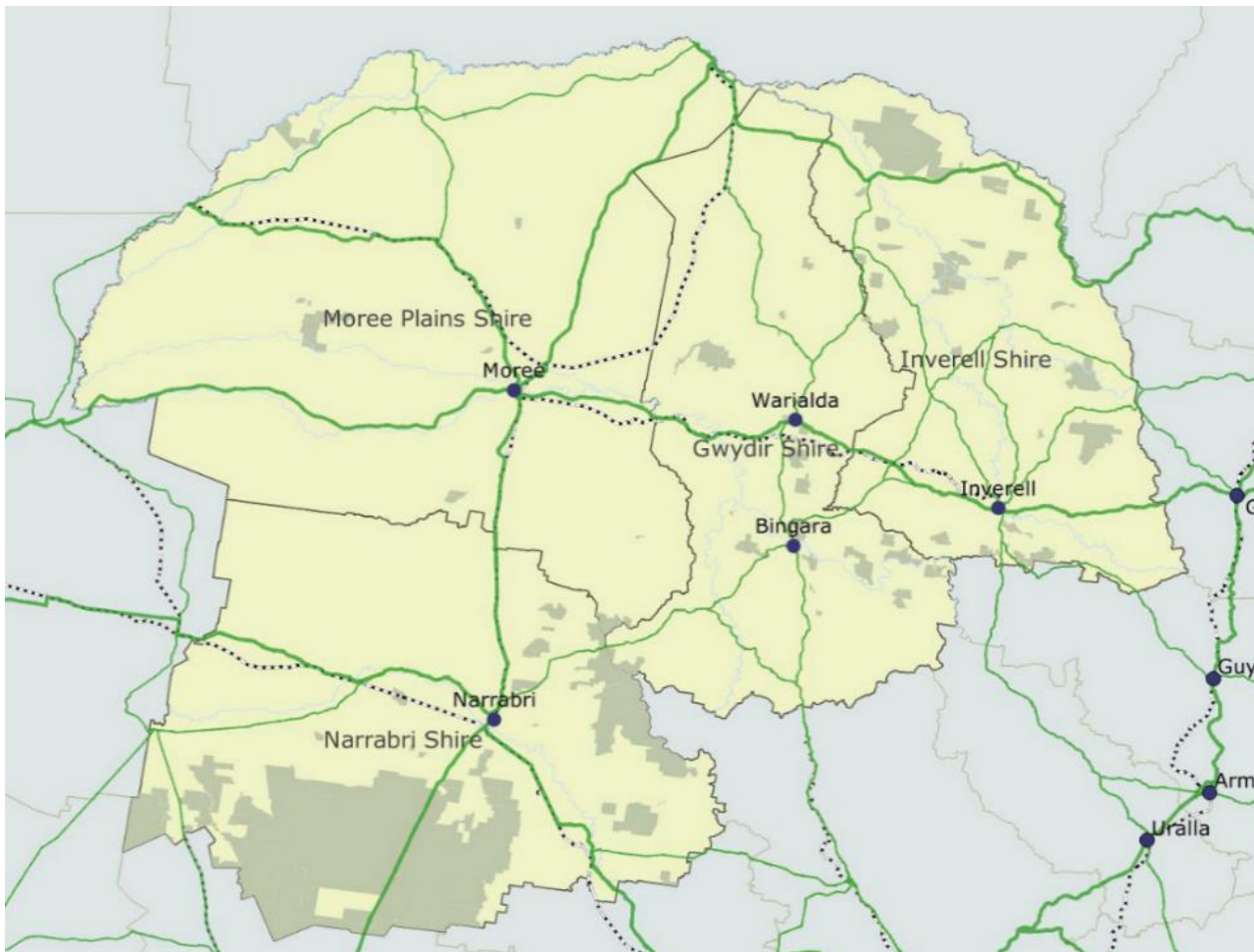







Figure 3: Map of the Upper North West Functional Economic Region.

## 4. The 2018 Upper North West REDS and 2020 Bushfire Addendum

In the 2018 REDS, the region was actively pursuing growth of its key industry specialisations, particularly agriculture and mining. Endowments recognised in the document spanned natural, social and infrastructure assets, many of which were central to the strategy's approach to enabling economic development for the region. These endowments and specialisations are highlighted below.




Following the 2019-2020 bushfires, the NSW Government developed the 2020 Upper North West Bushfire Impact Addendum, which offered additional areas of strategic focus to support resilience.

### 2018 Upper North West strategies

	Improve freight efficiency of engine industries of agriculture and mining.
	Encourage investment, increased productivity and value-adding.
	Invest in people, skills, community and lifestyle to address the region's skills gap.
	Diversify the economy through emerging sectors.
	The 2020 Upper North West Bushfire Impact Addendum outlined a series of additional short, medium and long-term priorities focused primarily on enhancing economic and community resilience, including by pursuing growth and diversification in the region.

### 2018 Upper North West specialisations

The industry specialisations below were identified as comparative advantages for the Upper North West region in the 2018 REDS, based on employment concentrations in industry sectors.

	Agriculture, forestry, and fishing
	Manufacturing
	Mining

## 2018 Upper North West endowments

The Upper North West is home to a wealth of physical, institutional, built and human endowments. These endowments play a key role in enabling success and growth across its 2018 industry specialisations of agriculture, mining, and manufacturing.







Endowment	Relative 2018 specialisation
Highly productive agricultural land and know-how	
Access to water	
Location and transport access	
Mineral and gas resources	
Renewable energy resources	
Quality cultural, natural, and tourism assets and experiences	



Figure 4: The town of Inverell. Photo credit: Destination NSW.



## 5. The big picture: Shocks and trends impacting the Upper North West region since 2018



Figure 5: Sawn Rocks in Narrabri LGA. Photo credit: Andrew Pearson.

### Significant events impacting major industries

A sustained period of drought, followed by major bushfires and flooding had severe environmental and economic implications for the region. The COVID-19 pandemic further challenged the region, with local businesses suffering, particularly those in the visitor economy, who felt the impacts of movement and operating restrictions. From the period 2018 to 2022, the region had nine disaster declarations<sup>[1]</sup> and received \$20.17m in disaster recovery grants.<sup>[2]</sup> Recovering from these events and developing both industry and community resilience has been a priority for the region since 2018.

### Drought

During the 2017-20 drought, the Upper North West's main catchment, the Copeton Dam, had its worst 24-month period on historical record.<sup>[3]</sup> By May 2019, severe drought saw the Copeton Dam at just 10% capacity, meaning the Gwydir region entered Stage 3 – severe drought water restrictions.

The drought had a significant impact on the agricultural sector, with native fish needing to relocate to survive, fish deaths downstream of Moree, and restrictions on commercial pumping introduced in 2020.<sup>[3]</sup> This affected the broader economy given the agricultural specialisation of the Upper North West region, translating to a spike in unemployment in 2018-19 (see page 22).

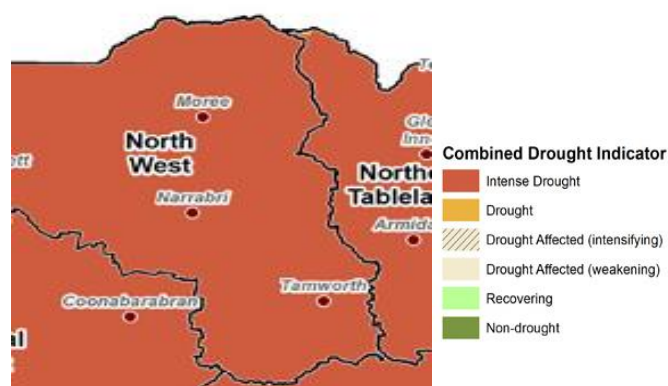


Figure 6: Combined drought indicator, 12 months to 31 December 2019 (Department of Primary Industries (DPI), 2022).

## Bushfires

The 2019-20 bushfires also impacted parts of the Upper North West region, as shown in Figure 7. Key impacts included:<sup>[4]</sup>

- 474 square kilometres burnt with four properties damaged or destroyed.
- Impacts on the agricultural sector with damage to key assets including fencing, sheds, machinery and infrastructure,
- Short-term impacts on tourism through the temporary closure of national parks in the region.

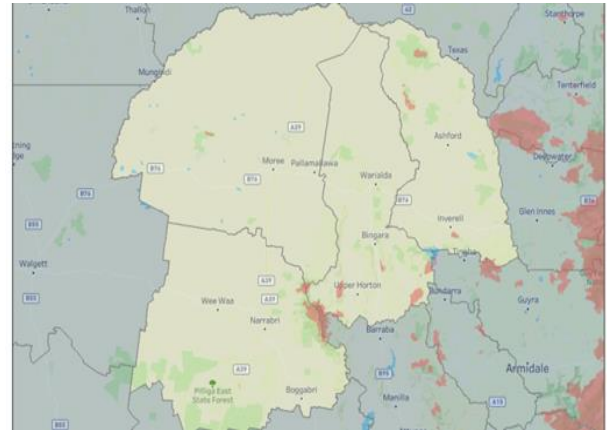


Figure 7: Fire impacted areas in the Upper North West region.

## COVID-19

COVID-19 significantly impacted business-as-usual activities, with 37% of businesses reporting the pandemic negatively affected their business.<sup>[5]</sup> Consequently, there was a sustained increase in income support recipients in the acute phase of the pandemic in 2020, with Jobseeker recipients rising by 27% while healthcare card recipients rose by 16% from March to June 2020.<sup>[6]</sup>

Border restrictions also restricted the traditional movement of people, workers and goods, with a negative impact on the visitor economy. Tourism Research Australia data indicates 2021 spending levels were down \$125 million on 2019 levels as a result of decreased day and overnight travel.<sup>[7]</sup>

## Mouse plague

Along with a large part of regional NSW, the breaking of the drought and bumper crops, along with wetter than normal conditions provided the perfect environment for an explosion in mice numbers, leading to a major mouse plague in 2021. Parts of the Upper North West region were significantly impacted by the plague, with widespread damage to crops, agricultural machinery and infrastructure, as well as broader impacts on residential property and community health and wellbeing.<sup>[8][9]</sup>

To support impacted communities, the NSW Government made available up to \$95 million for primary producers in financial need, and \$45 million for the Small Business and Household Mouse Control Rebate. In the Upper North West region, a total of \$2.62 million was paid to 5,055 households and small businesses recipients as part of the program.<sup>[10]</sup>




## Floods

Since 2018, eight of the 11 natural disaster declarations across the Upper North West region have been caused by severe storm and flooding events.<sup>[11]</sup> In 2021, major flooding occurred throughout Narrabri, with water levels peaking at around 7.6 metres, resulting in major road closures.<sup>[11]</sup> Flooding events have caused damage to local infrastructure, particularly local roads and visitor facilities, and have resulted in the temporary closure of many national parks for visitor safety reasons.

In October 2022, all LGAs in the Upper North West region were again severely impacted by further major flooding. The floods caused widespread damage to properties and infrastructure, with more than 390 properties inundated in Moree alone and more than 1,200 structures damaged, a range of key transports links cut and properties in rural areas isolated for weeks.<sup>[12][13]</sup> The impact on key industries was substantial, with it estimated that in Moree Plains Shire alone the loss of income to the agricultural sector may have been as high as \$500 million.<sup>[14]</sup>

## Macroeconomic trends shaping the region’s future

Macroeconomic trends related to climate and migration have played a significant role in the Upper North West region since 2018 and are likely to continue to have a strong influence on its future. With a growing population of remote workers, the impacts of successive natural disasters and the progression towards net zero, the region faces both opportunities and risks associated with these key trends.

Trend		Opportunities and risks
 <p>Digital Transformation</p>	<p>The recent COVID-19 pandemic has accelerated development of the digital economy in Australia, with increased uptake of remote working arrangements as well as online services such as education and telehealth.<sup>[15]</sup></p> <p>As industries diversify and innovate, the need for reliable and efficient telecommunications infrastructure to support business growth and to secure and retain a skilled workforce continues to increase.</p> <p>Investment in improved infrastructure since 2018 include new mobile towers around Inverell and Narrabri will assist, but additional investment will be required as demand increases, and to address current connectivity and coverage shortfalls.</p>	<p>The digital economy can support opportunities to enhance innovation and support growing industries.</p> <p>Remote working and digital service provision can enable access to a greater labour pool for the region, noting it also increases the ability for local workers to remotely work in roles elsewhere.</p>
 <p>Changing Migration Patterns</p>	<p>The continuing spread of urbanisation has seen unprecedented migration to regional NSW. This is evident in the population shift in 2020-21, with regional NSW gaining an additional 26,800 residents while Sydney declined by 5,200.<sup>[16]</sup></p> <p>Migration has led to increased housing pressures and brought an increased demand for metro-competitive services and infrastructure. Retaining a sufficient working population, especially in healthcare, also typically requires high-quality placemaking and amenity.<sup>[17]</sup></p>	<p>A boost in population can boost local economic activity and attract new businesses and industries to the region.</p> <p>Population increases place upward pressure on existing infrastructure and services, such as housing and care economy services.</p>
 <p>Towards Net Zero</p>	<p>Although coal mining and gas reserves in the region are expected to remain a key contributor to the Upper North West regional economy in the short- to medium-term, the region will be impacted by a broader shift towards renewables in the medium to long term.</p> <p>The region has an emerging renewable energy sector given its natural endowments, with a range of wind and solar projects.</p>	<p>Opportunities for a range of renewable investments, particularly in the Moree Special Activation Precinct.</p> <p>There is a need to ensure the local community sees benefits from renewable investments beyond the construction phase.</p>




Trend	Opportunities and risks
 <p>Rising Uncertainty</p> <p>The region has seen a succession of extreme climatic events since 2018, including drought and the mouse plague brought on by wet conditions after several years of drought. Climate events have had a significant impact on local businesses and industries, particularly within agriculture.</p> <p>With the frequency and intensity of these events projected to increase in coming decades,<sup>[18]</sup> there is a need to enhance climate resilience in the region, with a focus on building community resilience in relation to health and wellbeing, as well as resilience of physical infrastructure.</p>	<p>Elevated risk of damage to infrastructure assets given increased climate variability.</p> <p>Risks of supply chain unreliability impeding key local industries in the region, including agriculture and manufacturing.</p>



Figure 8: The Village Store (built in 1911) at Inverell Pioneer Village. Photo credit: Destination NSW.



## 6. Responding to change: Initiatives and investments since 2018



Figure 9: Producing 'grove juice' in Moree Plains LGA. Photo credit: Moree Plains Shire Council.

Since 2018, local councils, the NSW Government and other key organisations have delivered new and updated key strategic documents and plans that help guide economic and community development in the region. These documents support the development of local enabling actions that contribute to progress against key REDS priorities and strategies.

Strategies and plans	Relevant 2018 strategies
<p>The <b>New England North West Regional Plan 2041</b> provides a long-term planning framework for the broader region, and includes a focus on ensuring sufficient supply and diversity of housing to service the needs of the region.</p>	
<p>The region's councils' <b>Local Strategic Planning Statements</b> set out the strategic planning objectives for each LGA, aligning with the Regional Plan. This is complemented by each council's <b>Community Strategic Plan</b>, which sets out actions to address and support the community's main priorities and future aspirations.</p>	
<p>The <b>Moree Special Activation Precinct (SAP) Draft Master Plan</b> outlines pathways to attract and grow businesses and employment opportunities to catalyse the SAP, including streamlined planning and delivery of enabling infrastructure.</p>	
<p>The <b>Moree Plains Economic Development Strategy and Action Plan 2021-2031</b> seeks to capitalise on recent investments in the region to diversify the local economy, attract investment and create employment opportunities. This work is supported by the <b>Moree Plains Local Housing Strategy</b>, which seeks to achieve a balanced approach to managing population growth and housing needs, particularly for the delivery of large infrastructure projects such as the Moree SAP.</p>	

Strategies and plans	Relevant 2018 strategies
The <b>Namoi Regional Job Precinct</b> will focus on improvements in planning to support the sustainable growth of intensive agriculture and livestock production.	
The <b>Narrabri Special Activation Precinct</b> masterplan (under development) will leverage the region's strategic location to inland rail, Narrabri West Walgett line and Narrabri Northern inland port to target energy-intensive manufacturing, value-add agricultural production, recycling, and freight and logistics.	
The <b>Destination Country and Outback Destination Management Plan 2022-2030</b> establishes an approach to grow the region's visitor economy and create meaningful connections between communities, businesses and visitors to the region.	
The <b>Royalties for Rejuvenation Fund and North West Expert Panel</b> (established under the <i>Mining Act 1992</i> ) will support long term economic diversification for coal mining regions, including funding infrastructure, services and programs.	
The draft <b>Gwydir and Namoi Regional Water Strategies</b> set out the long-term water plan for the Upper North West region.	

## Significant investments since 2018

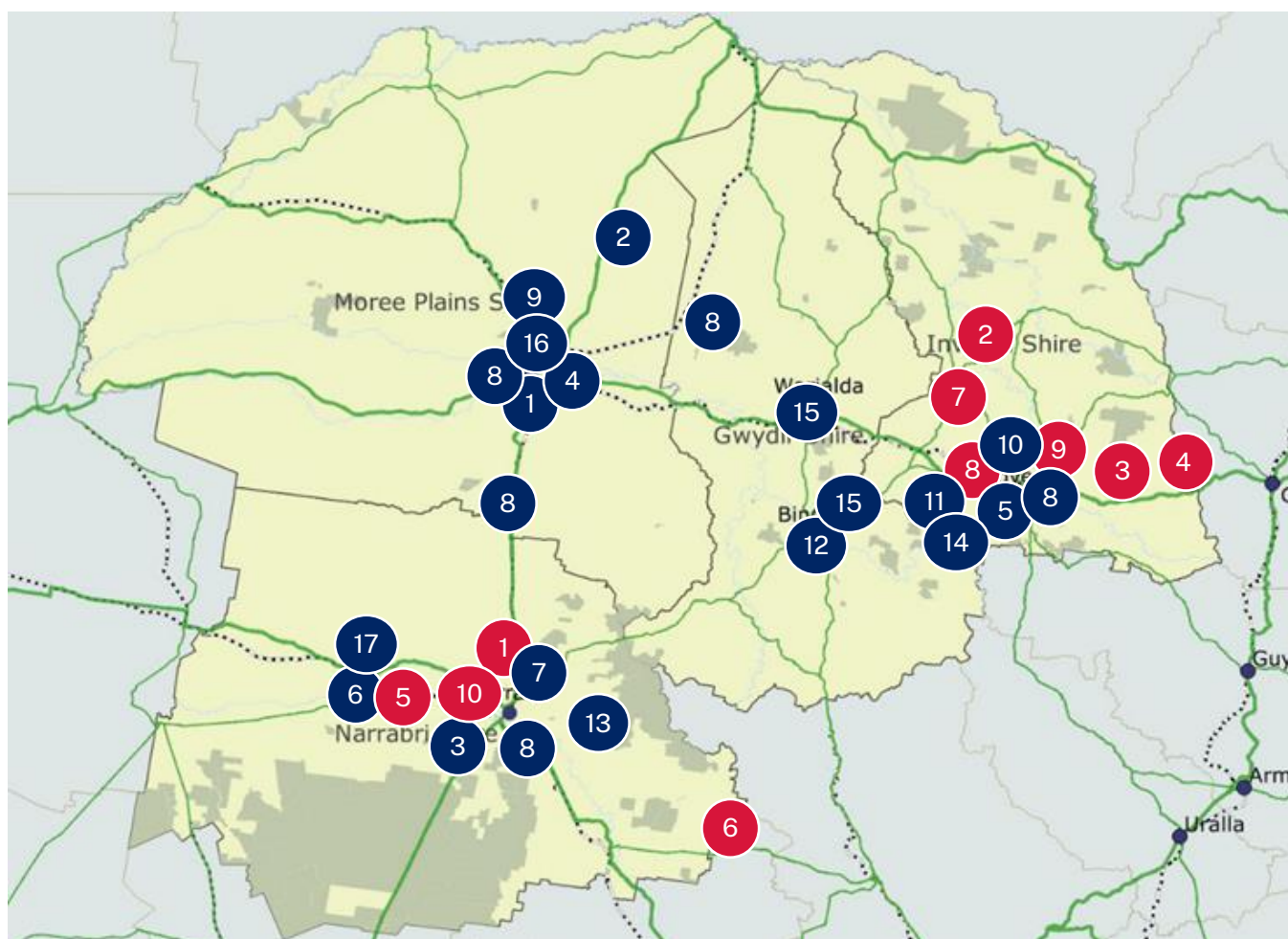





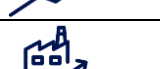



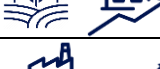


Figure 10: Map of significant investment in the Upper North West region since 2018.







As shown in Figure 10 above, since 2018 the region has received significant local, state and federal funding through public investments, as well a range of private investment. These investments are at varying stages of progress, with some delivered, some underway, and some still in the planning stage. Public investments have focused on major health facilities, as well as a range of projects to increase amenity for the local community, as well as the major projects of Inland Rail and the Moree SAP. Grant funding has played a key role in the delivery of many of these projects.

### Major private investment since 2018














Investment	Estimated total project value	Relevant 2018 strategies
1 Silverleaf Solar Farm	\$191 million	
2 Bonshaw Solar Farm	\$238 million	
3 Sapphire Solar Farm	\$280 million	
4 White Rock Wind Farm – Stage 2	\$300 million	
5 Narrabri Gas Project	\$3.5 billion	
6 Whitehaven Coal – Vickery extension project	\$607 million	
7 Austin Mining – Ashford coal mine	Not available	
8 Bindaree Beef <sup>1</sup>	>\$8 million	
9 Boss Engineering facility upgrades <sup>1</sup>	\$8 million	
10 Australian Recycled Plastics expansion <sup>2</sup>	\$4.3 million	

### Major public investment since 2018

Investment	Estimated total project value(s)	Relevant 2018 strategies
1 Moree SAP initial investment	\$194 million	
2 Inland Rail	>\$2 billion	
3 Northern NSW Inland Port	\$24.6 million	
4 Moree Hospital redevelopment	\$80 million	

<sup>1</sup> Supported by funding from the NSW Government's Regional Job Creation Fund.

<sup>2</sup> Supported by funding from the NSW and Commonwealth Governments.

5	Inverell Hospital upgrade	\$60 million	
6	Wee Waa High School redevelopment	\$49 million	
7	International Centre of Crop and Digital Agriculture	\$12 million	
8	Major transport projects - Newell Highway upgrades, Moree Overpass, Narrabri to Turrawan rail, Gwydir Highway intersection Inverell, County Boundary Road resealing	>\$360 million	
9	Roads to Home – Stanley Village and Mehi Crescent	Not available	
10	Inverell Aquatic Centre Redevelopment	\$25.7 million	
11	Myall Creek cultural precinct	\$1.1 million	
12	Big River Dreaming Bingara projects	>\$2 million	
13	Mount Kaputar walking tracks and campground	\$650,000	
14	Copeton Northern Foreshores Upgrade	\$5.7 million	
15	Gwydir Shire sporting facility upgrades	>\$2 million	
16	Moree Civic Precinct development	\$2.4 million	
17	Wee Waa Community and Business Hub	\$2.5 million	

### Regional grant programs

The region has received \$109.58 million in grants since 2018. Key programs in the Upper North West region have included the Growing Local Economies Fund, with \$23.11 million provided to support major transport and industrial development projects, and the Resources for Regions program, with \$22.45 million provided to support a range of transport infrastructure and community amenity projects.

Grant category	Approved funding
Community	\$50.48 million
Economic	\$38.94 million
Disaster recovery	\$20.17 million

*Note: Total grant funding outlined above only includes programs managed by the Department of Regional NSW, accurate as at January 2023.*

## 7. Upper North West 2023 economic snapshot

The Upper North West has experienced a declining rate of population growth in recent years, which will present challenges given major projects in the region.

The region has seen a declining rate of population growth over the past five years. This highlights a key need to focus on developing social infrastructure that can support attraction and retention of people in their prime working age. This need is compounded by the pressures that can result from the workforce needs of major projects, such as the Moree SAP.

### Population growth

As displayed in Figure 11, the region saw an average annual population growth rate of -0.7% between 2018 and 2021, with a total decrease in population of 2.1% over the period. This equates to a net loss of 1,025 residents between 2018 and 2021.

While the region has experienced a decrease in population in recent years, NSW population projections forecast a return to positive population growth in coming years.

It is forecast that there will be around a 4% increase in total population in the region during the period up to 2031.<sup>[19]</sup> Given transformational investments including the Moree and Narrabri SAPs, the Namoi Regional Jobs Precinct and Inland Rail, a strong foundation is being established to deliver sustained economic growth in the region, which will also support population growth into the future.

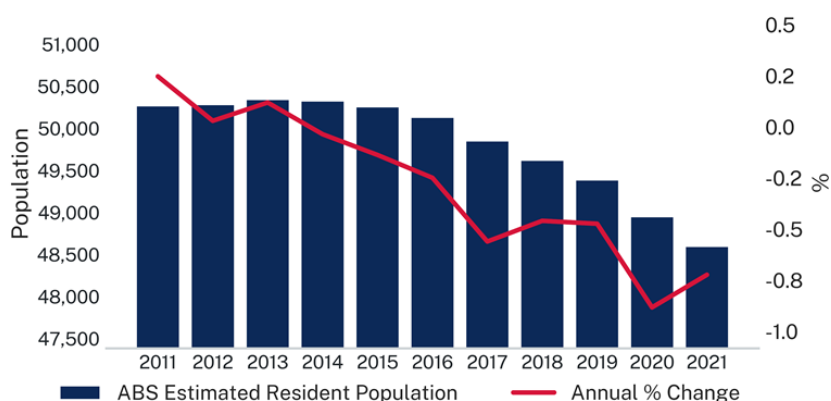


Figure 11: Upper North West FER population growth, 2011-2021 (ABS ERP, July 2022).

### Demographic profile

In 2021, the proportion of the Upper North West region's population in their prime working years (20-54 years) was 6% lower than the NSW average, while the over 55 age group cohort was 5% higher. A key challenge for the region will be providing sufficient workforce training and skills development to ensure that labor supply can match the demand from key sectors such as healthcare, engineering trades and legal, social and welfare professionals. In addition, there will be significant labour demand generated by major projects such as the SAPs in the region, which will only heightened the need for a strong focus on developing workforce capability and capacity in the region.

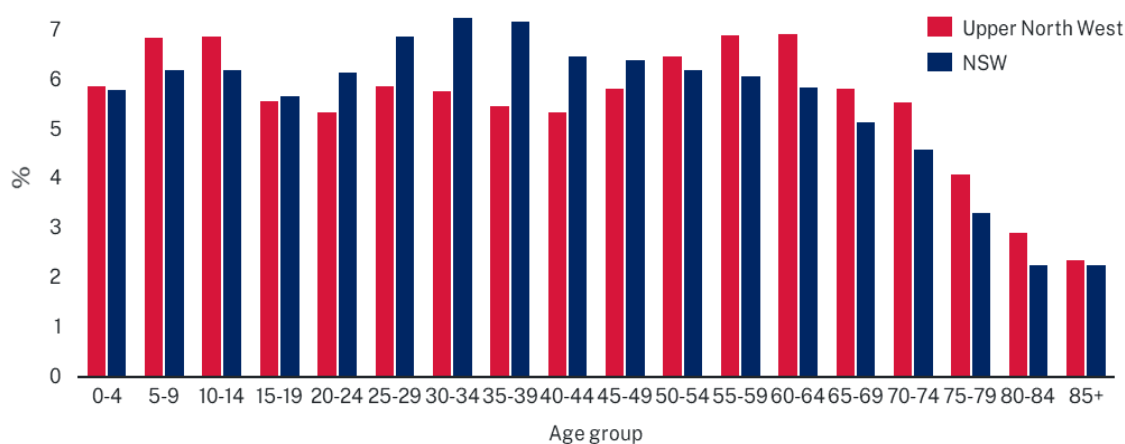


Figure 12: Upper North West FER population by age, 2021 (ABS ERP, July 2022).



## Housing availability and affordability has tightened during the pandemic, posing challenges for future growth

The region has faced a modest decline in housing availability and affordability since 2018. The delivery of the Moree and Narrabri SAPs is likely to place further pressure on housing supply in the region, and ensuring a sufficient and affordable housing supply will be critical for enabling long term growth.

### Housing availability

Residential vacancy rates in the region have dropped from 3% in March 2020 to 1.2% in August 2022 (see Figure 13). As with much of regional NSW, this heightened demand has seen growth in house prices. Residential building approvals in the broader region continue to fluctuate greatly, with no evident increase in-line with observed demand for housing.

While there is always a degree of lag between supply and demand for housing, there is a need to ensure that state and local planning systems (and other land development enablers such as infrastructure provision) are appropriately calibrated to keep pace with the projected demand for housing, especially as major projects in the region move towards the labour intensive construction phase.

### Housing affordability

Between June 2018 and June 2022, the median house prices increased in parts of the region, with significant variation between LGAs. In Narrabri LGA median prices increased by 25% to \$370,000 and in Inverell prices grew by 51% to \$375,000. In Moree Plains LGA the median price was flat at \$175,000, while in Gwydir Shire, the estimated median prices in June 2022 were \$220,000 in Warialda and \$238,750 in Bingara, with insufficient data available to estimate the change in prices since 2018.<sup>[20][21]</sup>

Despite significant price rises in recent years, in 2021 the price to income ratio for the region was estimated to be 3.38, less than half the NSW average of 8.12, indicating the region maintains a relative cost advantage in relation to housing.<sup>[22]</sup> However, sustained house price growth, in particular in Narrabri and Inverell, may act as an increasing constraint for the region in attracting and retaining key workers, with flow on impacts for major project delivery and overall economic growth.

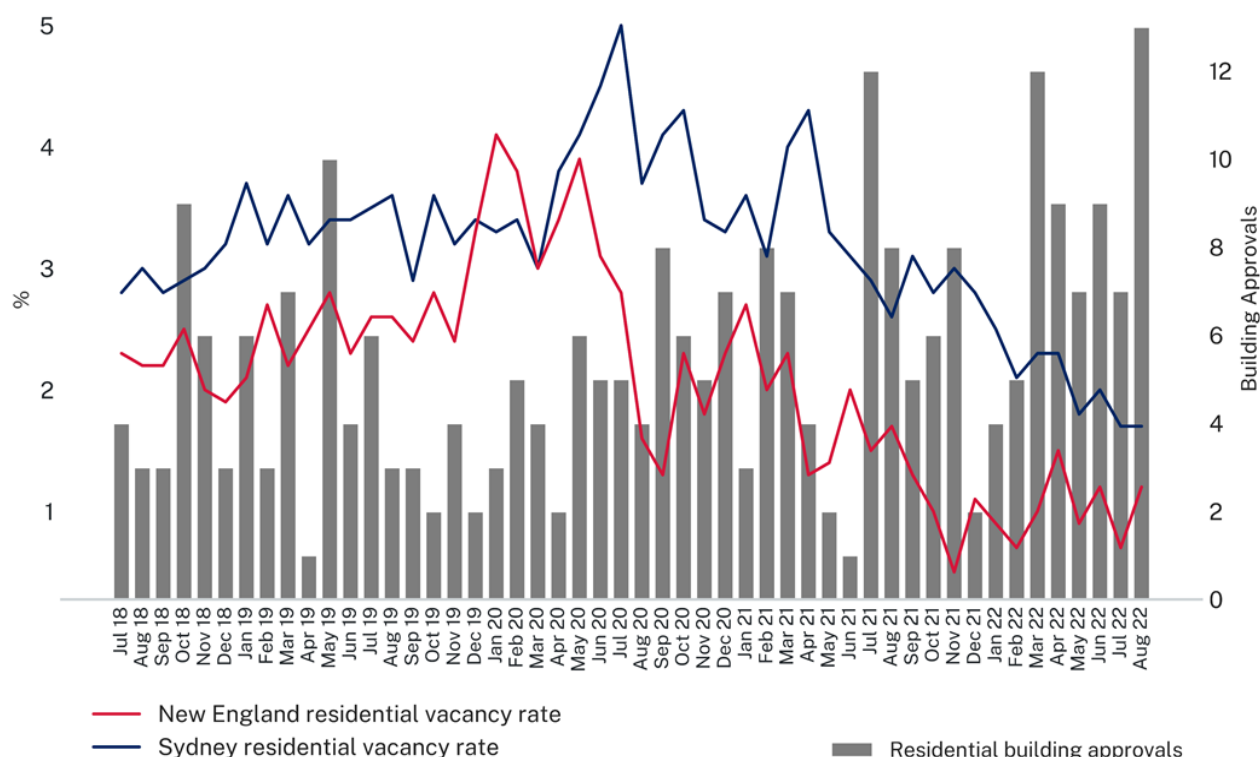


Figure 13: Upper North West FER vacancy rate and building approvals, 2018-2022 (REINSW, 2022).

Note: REINSW vacancy data collection is not aligned with the FER boundary map, resulting in an overlap with other FERs. These results are therefore intended to provide an indication of housing vacancies in the region.

## Job vacancies in the region have increased significantly, yet unemployment rates remain above the NSW average

The Upper North West unemployment rate remains relatively high, despite job vacancies more than doubling since 2018. The region identified a need to further develop skilled workforce attraction and retention initiatives in the 2018 REDS, and this priority remains critical going forward, given the need to ensure a sufficient workforce to support major project delivery in the region.

### Employment

As at June 2022, unemployment rates varied across Upper North West (see Figure 14). Narrabri and Gwydir had unemployment rates of 5.4% and 5.0% respectively, while Moree Plains and Inverell had unemployment rates of 7.5% and 8.4% respectively, compared to the NSW unemployment rate of 3.3%. Throughout the pandemic, the region's unemployment rates fluctuated in line with COVID-19 restrictions, but unemployment rates in all 4 shires have been above the NSW average since December 2021. This suggests there is room to source more local labour to support major projects and industry growth, provided the right training is offered in the region to match the skills demanded.

As shown in Figure 15, job vacancies in the broader Tamworth and North West region have climbed to reach a record 1,456 in August 2022, having risen significantly from approximately 544 in December 2018. Occupations with a particularly acute need for workers include sales assistants (106), carers and aides (107), administrative workers (114), legal, social and welfare professionals (79), automotive and engineering trade workers (70), and medical practitioners (75). This represents a particular challenge for a region seeking growth while facing population growth and an ageing population, all of which bring about increased demand for health and care services.

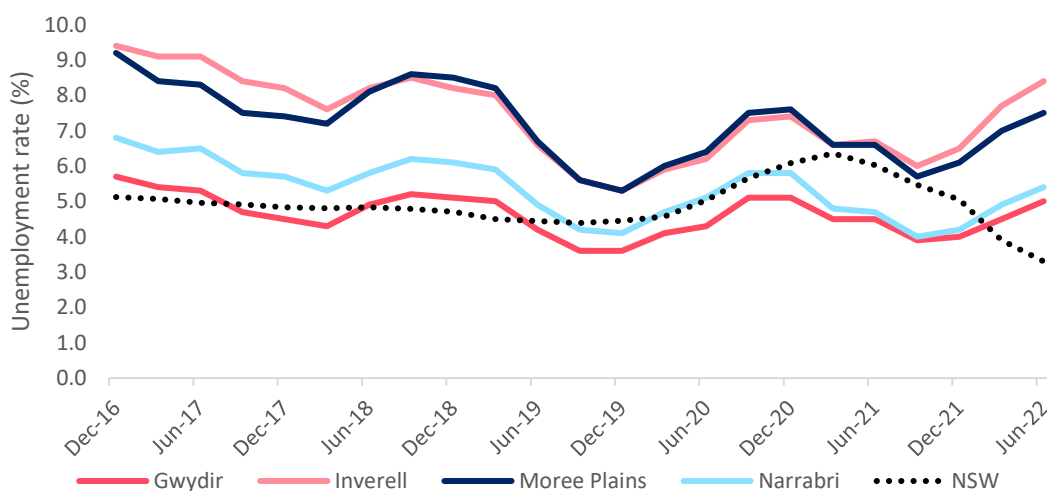


Figure 14: Upper North West FER unemployment rates (%), 2016-2022 (National Skills Commission, 2022; ABS Labour Force, 2022).



Figure 15: Job vacancies, Tamworth and North West region (2018-2022) (Regional IVI, National Skills Commission, 2022).

Note: The regional IVI - National Skills Commission job vacancy data collection is not aligned with the FER boundary map, resulting in an overlap with other FERs. Job vacancy data only includes online job vacancies. These results are therefore intended to provide an indication of job.

## Aboriginal employment

Aboriginal unemployment in the Upper North region was measured as 13.5% in 2021, a significant reduction from 23.1% in 2016 and 27.4% in 2011. The rate remains above the NSW average Aboriginal unemployment of 9.8% and the NSW general unemployment rate of 4.9%, but demonstrates that sustained improvements related to Aboriginal economic participation have been achieved.

The SAPs in the region will unlock new employment opportunities across a range of skillsets that could further support improved Aboriginal employment outcomes. The Moree SAP in particular seeks to open up economic opportunities through land based activities associated with Aboriginal owned land, which could present significant opportunities to support broader Aboriginal economic development in the region.

Aboriginal unemployment rate: Upper North West	2011	27.4%
	2016	23.1%
	2021	13.5%
NSW Aboriginal unemployment rate	2021	9.8%
NSW unemployment rate	2021	4.9%

Source: ABS Census 2021



Figure 16: Moree Markets. Photo credit: Moree Plains Shire Council.



## Upper North West region 2023 engine and emerging industries

The Upper North West is a \$4.27 billion economy, driven largely by its specialisations in agriculture and mining. Despite significant shocks since 2018, including bushfires, floods and the COVID-19 pandemic, the region's engine industries have remained a source of stability. The relative strength of industries in the region is highlighted through Location Quotient (LQ) analysis<sup>3</sup> as displayed in Figure 17, in which the size of the bubbles correlates with industry size.

### Engine industries

The region's engine industries have remained consistent since the 2018 REDS/with each demonstrating growth and continuing to make a major contribution to the Upper North West's regional economy.

**Mining** (LQ of 6.69) remains the dominant driver of economic output in the region, contributing \$1.284b, representing 30% of the local economy in 2020. Coal mining is the dominant sub-sector, contributing \$1,182m in 2020, equal to 92% of the industry's value-add with a LQ of 7.4. Oil and gas extraction is the second largest subsector, contributing \$80m in 2020 with a LQ of 11.4.

**Agriculture** is another core engine industry for the region, generating \$591m of GVA in 2020 with an LQ of 7.13. This is driven largely by a strong sheep, grains, beef and dairy sector, which generates 71% of the industry's output in the region. Cropping and cotton production is another major contributor to the sector.

The region has also demonstrated consistent growth in the **manufacturing** sector (LQ of 0.71), in spite of a state-wide decline in the industry across the same period, with the sector as a whole adding \$182m to the regional economy in 2020. The dominant sub-sector is meat product manufacturing (LQ of 5.5), a key downstream industry associated with the region's livestock specialisation.

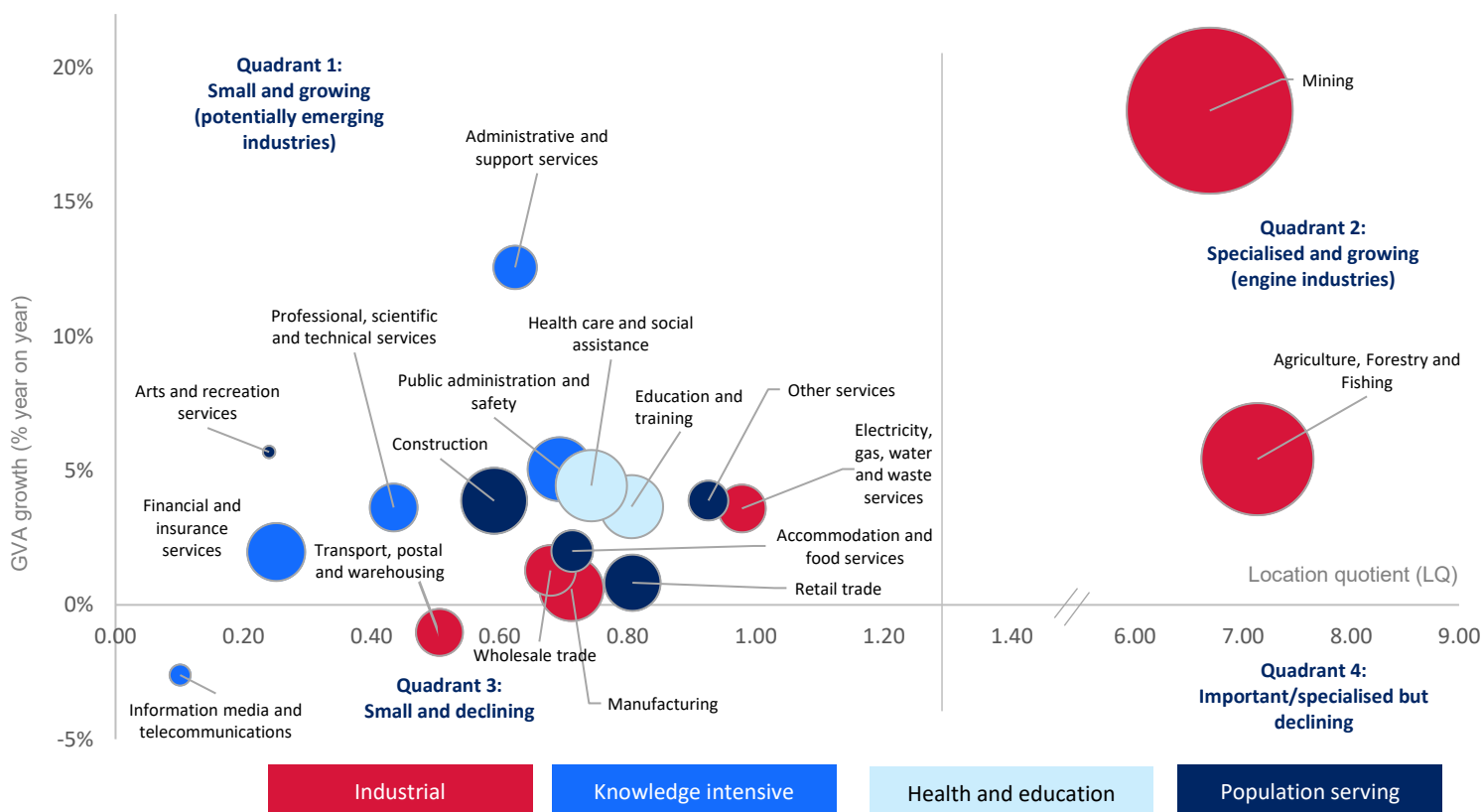


Figure 17: Location Quotient (LQ) Analysis by GVA, 2011-2020 (REMPLAN, 2020).

Note: While the 2018 REDS used employment data as the basis for LQ analysis, the 2023 Update used GVA data. This allows for a clear demonstration of the changing economic impact of both engine and emerging industries across the regions.

<sup>3</sup> LQ analysis is used to measure industry specialisation by comparing the relative size of an industry in the region versus the whole of NSW.

## Emerging industries

The region's emerging specialisations have remained consistent since the 2018 REDS (see Figure 18).

**Electricity, gas, water and waste services**, particularly renewable energy, is a growth sector for the region at 3.6% over the past decade. The dominant industry sub-sector is electricity distribution, accounting for 75% of the industry value-add in 2020. Gas supply is a growing specialisation for the region with LQ of 1.2.

Additionally, population-serving sectors including **health care and social assistance** and **education** demonstrate strong growth and potential as emerging specialisations for the region, particularly with ongoing investments and collaboration with tertiary education institutions such as the University of New England, Country University Centres in Narrabri and Moree, and TAFE.

Although not a specialisation, **tourism** is an important emerging industry for the region, generating cash flow year round for the region. Nature-based tourism and national parks are estimated to have contributed \$41.3 million in economic value in 2018, and \$123 million of estimated direct and indirect recreation expenditure.<sup>[23]</sup> This emerging industry could be further developed by coordinated promotion and development of tourism assets to encourage visitation and foster community and economic resilience through a more diversified economic base for the region.

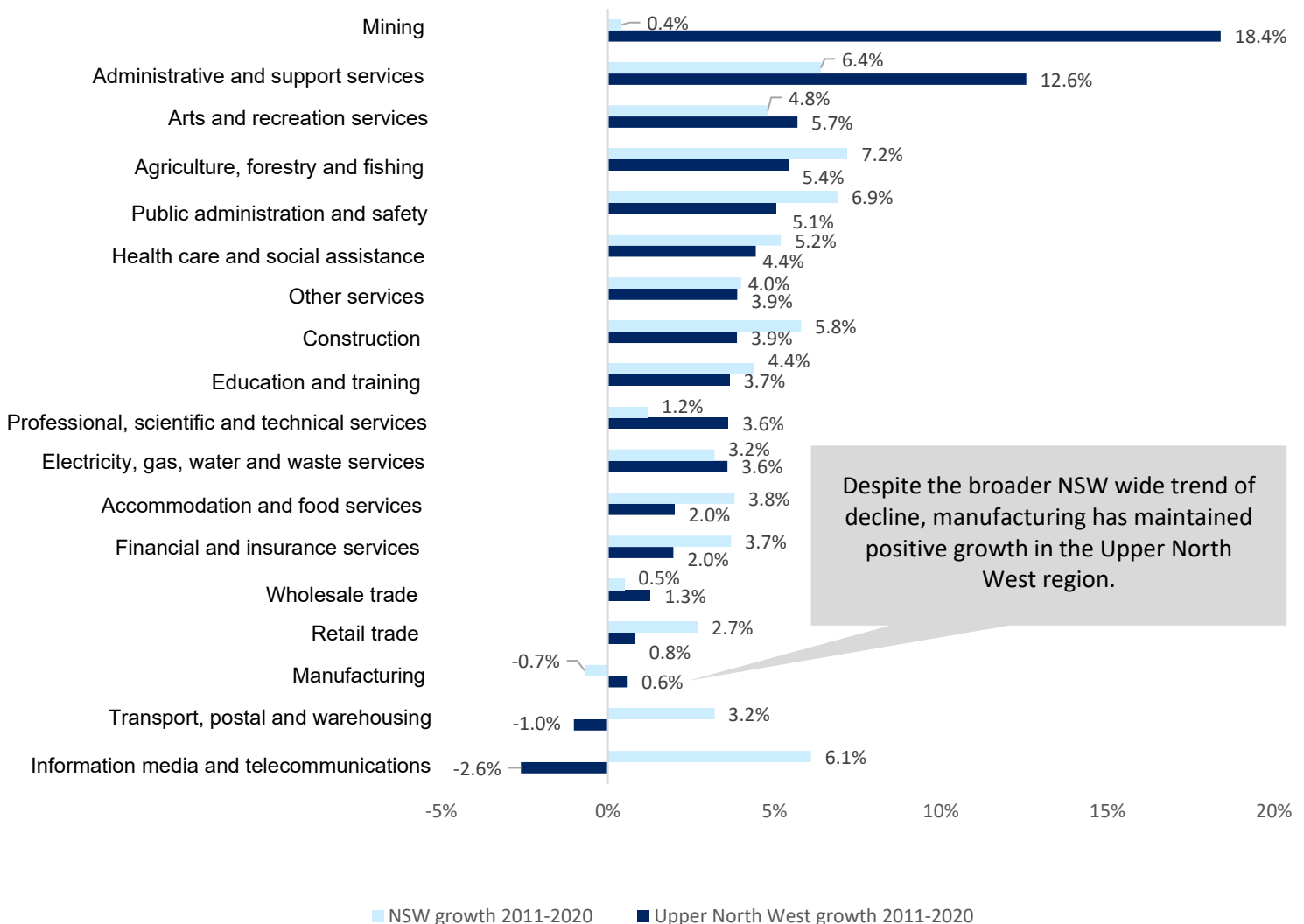


Figure 18: Change in GVA by industry (% YOY), 2011-2020 (REMPAN, 2020).

## Upper North West region 2023 endowments

### Review of the 2018 endowments

The 2018 REDS identified a diverse range of endowments underpinning Upper North West's economy and regional competitiveness (see page 11). Despite recent shocks impacting many key endowments, consultation confirmed that most of them remain valid, with key endowments including:

- highly productive agricultural land and know-how
- access to water
- location and transport access
- mineral and gas resources
- renewable energy resources
- quality cultural, natural and tourism assets and experience

### New endowments

While not yet reflected in the employment and industry specialisation (LQ) analysis, recent investments and policy efforts have led to the creation of new endowments which will underpin new economic opportunities and future specialisations.

+ Narrabri Special Activation Precinct (SAP)	The Narrabri SAP will be a business hub specialising in manufacturing, agriculture, recycling, and freight and logistics.
+ Moree Special Activation Precinct (SAP)	The Moree SAP will be a business hub specialising in agribusiness, logistics, and food processing.
+ Inland rail	Inland rail will improve freight efficiency and access to external markets for the region's key engine industries.
+ New England Renewable Energy Zone (REZ)	The New England REZ will provide significant renewable energy generation capacity, which will support the push towards net zero and provide opportunities for key energy reliant industries.
+ Namoi Regional Jobs Precinct (RJP)	The Namoi RJP will have a focus on enabling growth of sustainable farming practices to support industry resilience and productivity, with a focus on growth in the intensive agriculture sector and livestock production.



---

## 8. Looking ahead: Strategic opportunities for growth, resilience and liveability

### Opportunities and vulnerabilities in engine and emerging industries

#### Agriculture

The Moree SAP, and ongoing investment to deliver inland rail will support further growth in the agriculture sector by improving freight efficiency in the region.

GVA (2020, \$m)	591
Employment (2021) <sup>a</sup>	3,938
LQ score (2020)	7.13
LQ Sheep, grain, beef and dairy (2020)	10.1
LQ Other agriculture (2020)	4.9

<sup>a</sup> ANZSIC 1 digit Agriculture, forestry and fishing

#### Strengths

- Sheep, grain, beef & dairy is the dominant sub-sector, accounting for 71% of sector output in 2020.
- The region has long been a leader in agricultural research and crop development, with the University of Sydney Plant Breeding Institute a key local endowment that was first established in 1960.
- Major facility upgrades at Wee Waa in 2016 support seed distributors to grow other crops, in particular cotton.
- Continued innovation from farmers and producers has enabled efficiency and productivity gains, for instance the shift towards increased use of round bailing for cotton.
- The region benefits from co-location with downstream food product manufacturing businesses.

#### Vulnerabilities

- The industry relies on viable climatic conditions for production which may present vulnerabilities in the face of rising incidence of extreme climate events.
- Farm labour shortages continue to challenge the sector, driven by lingering impacts from COVID-19 border restrictions given the traditional reliance on international migrants, and a lack of affordable accommodation in parts of the region.

#### Opportunities

- The Moree and Narrabri SAP, as well as the Namoi RJP will attract investment and support growth in agribusiness and food processing sectors, while access to inland rail will improve freight efficiency.
- The quality of soil in Moree produces high quality protein grain which is supporting the emerging market of plant-based protein.
- Ongoing investment in the uptake of agtech in farming processes can help offset ongoing workforce shortages and drive efficiencies going forward.

## Mining

The region benefits from a range of natural endowments to support the mining industry, including major coal reserves, deposits of gemstones, industrial minerals and extractive minerals. While the shift towards net zero will present challenges for the sector, it remains a critical part of the regional economy.

GVA (2020, \$m)	1,284
Employment (2021)	545
LQ score (2020)	6.69
LQ Coal mining (2020)	7.4
LQ Oil & gas extraction (2020)	11.4

### Strengths

- The Gunnedah coal basin is the state's third largest coal reserve with a potential for coal seam gas.
- The Upper North West region also has a range of deposits of gemstones, industrial minerals and extractive minerals.
- The sector continues to see significant growth in the Upper North West, averaging growth of 18.4% per annum in GVA between 2011 and 2020.

### Vulnerabilities

- While investment in coal mines continues, state and national net zero targets will require the industry to adapt.
- The sector remains susceptible to supply chain disruptions, fluctuations in input costs, energy supply and freight costs.
- Workforce shortages continue for the sector, and there is strong competition between mining companies for labour.
- A lack of worker accommodation in some parts of the region also represents an impediment to the mine expansion projects.

### Opportunities

- The recently approved Narrabri Gas Project for the exploration and extraction of coal seam gas from the Pilliga State Forest is expected to generate 170 direct jobs in the gas sector and could help support the establishment of additional local manufacturing facilities.
- Collaboration with education and training providers such as the University of New England, the Country University Centres and local TAFEs can be leveraged to develop the relevant skills base needed for the sector, in particular for key roles such as mine engineers.
- The NSW Government's Royalties for Rejuvenation Fund will provide opportunities to access support for long term economic diversification in the region, including through the funding the infrastructure, services, programs and other activities.

## Manufacturing

Manufacturing remains a strength in the region's economy, with a primary part of the sector dedicated to meeting the needs of the region's mining and agriculture sectors.

GVA (2020, \$m)	182
Employment (2021)	1,069
LQ score (2020)	0.71
LQ Meat & meat products (2020)	5.5
LQ Oil and fats (2020)	12.5

### Strengths

- The manufacturing sector primarily services the region's strong mining and agriculture sectors.
- The dominant sub-sector is meat product manufacturing, with \$79 million GVA in 2020.
- Other food-based manufacturing with significant export markets active in the region include cotton seed, canola oil, pet food, flour milling and soft drinks.

### Vulnerabilities

- The manufacturing sector is susceptible to supply chain disruptions, which was highlighted in many parts of NSW during the COVID-19 pandemic.
- Upwards pressure on prices for key inputs such as energy supply and freight transport costs can significantly impact on the sector, and workforce shortages remain a key challenge.

### Opportunities

- Significant opportunity will exist to leverage the investment attraction and logistics improvements associated with the development of the Moree SAP, the Narrabri SAP and Inland Rail.
- The Narrabri Gas Project can improve the availability of lower-cost gas supply resources in the region, which can support manufacturing industry expansion in the region.
- Opportunities exist in niche speciality manufacturing of recycled plastics, including possibilities for further investment in operations and upgrades to machinery to allow for better throughput.
- Emerging opportunities exist for advanced manufacturing and robotics in food processing, particularly around the Namoi Regional Job Precinct.



## Energy supply (including renewables)

The emerging specialisation in energy generation in the Upper North West presents significant opportunities for both public and private investment.

GVA (2020, \$m)	102
Employment (2021) <sup>a</sup>	225
LQ score (2020)	0.98
LQ Electricity distribution (2020)	1.2
LQ Gas supply (2020)	1.4

<sup>a</sup> ANZSIC 1 digit Electricity, gas, water and waste services

### Strengths

- The Upper North West has plentiful solar, wind and bio-mass resources and some hydro-electricity capability in existing dams.
- The region is home to several solar projects, with a large solar farm at Moree and new solar farms approved and in development at Narrabri and Wee Waa.

### Vulnerabilities

- Large-scale energy generation projects often require a large amount of space, which can create challenges given competition for land use for commercial, industrial, agricultural and residential use in the region.
- Ensuring sufficient availability of housing for project workforces during the construction phase of energy projects will continue to represent a key challenge for the sector.
- The need for significant upfront infrastructure work, in particular associated with energy network upgrades may represent a barrier to development of solar and wind farms.

### Opportunities

- Additional renewable energy projects in the planning pipeline can help to expand local generation capacity and consolidate energy resilience in the region.
- Planning actions to ensure local businesses benefit from projects, steps to ensure local skills training aligns with ongoing employment opportunities, and improving supply of adequate housing is critical to ensuring long term benefits flow to the region from investment.

## Key themes in stakeholder consultation

While it is clear that the region has made progress against the strategic direction of the 2018 REDS, stakeholders identified a need to boost resilience and support the long-term recovery of the region's communities and industries.

Stakeholders noted the area is facing both challenges and opportunities related to population growth, while recent natural disaster events, particularly bushfires in 2019-20, have brought to the fore the need to build community and infrastructure resilience against likely future shocks.

### Housing availability and affordability

Consultation input revealed concerns amongst stakeholders that current shortages and reductions in housing affordability will only worsen in the face of impacts from the need to house workers associated with major projects in the region, such as the Moree and Narrabri Special Activation Precincts, Inland Rail and energy sector investments.

### Taking a long-term view on major projects

While consultation participants acknowledged the economic opportunities provided by investments in major infrastructure and precinct-based developments in the region, a keen desire was expressed around focusing on long-term benefits to ensure these projects do not lead to a boom-bust sequence of events. Consultation revealed a desire to prioritise growing and enhancing the region's skilled labour base/ as a way to support longer term positive outcomes for the community.

### Building resilience

Recent natural disasters, alongside the impacts of the COVID-19 pandemic on consumer spending and visitation, have brought the need to build principles of resilience into policy and programs to the forefront of many stakeholders' minds.

In particular, stakeholders outlined that a focus is needed on continual improvement in the availability and reliability of enabling infrastructure and telecommunications, and on ensuring an adequate supply of industrial and residential land across the region.

## Upper North West REDS – 2023 update strategies

The 2018 strategies remain broadly relevant to Upper North West. However, the outcomes of consultation and analysis have demonstrated a need for changes to reflect the growing role of renewable energy supply in the region's economy/ and to ensure a renewed focus on delivering major investments in the region that can increase productivity and support major value-adding industry activity in the region.

Reflecting the changes outlined above, the 2023 REDS Update strategies for the Upper North West FER are listed below (amendments made to existing 2018 strategies are highlighted in **bold**):

Existing	Improve freight efficiency of engine industries of agriculture and mining.
Amended	Encourage <b>and deliver</b> investments, increased productivity and value-adding activities within the region.
Existing	Invest in people, skills, community and lifestyle to address the region's skills gap.
Amended	Diversify the economy through emerging sectors <b>including renewable energy</b> .

## Key enablers of economic growth

A number of key enablers have been identified to assist with delivering each of the strategies. This list is non-exhaustive, with a focus on identifying priority short- to medium-term enablers. Responsibility for implementation of these enablers sits with various levels of government, and in some cases may also include business, industry and/or non-government bodies. Collaboration across these entities at a local level will be key to achieving results.

Strategy	New Enablers		Lead and support	Rationale
Improve freight efficiency of engine industries of agriculture and mining.	Infrastructure	Identify and activate opportunities which ensure that agriculture and mining freight distribution routes have optimised access to inland rail.	<b>Transport for NSW (TfNSW),</b> Department of Planning and Environment (DPE) Planning, local councils	Improved freight efficiencies will consolidate value and contribution of the regions key industries.
Encourage and deliver investments, increased productivity and value-adding.	Businesses	Facilitate uptake of technology in agriculture and manufacturing to improve efficiency and output, including advanced manufacturing and robotics opportunities in food processing.	<b>Department of Primary Industries (DPI),</b> Department of Regional NSW (DRNSW), local councils	Improve business resilience and maximise productivity across key industries in the region.
Invest in people, skills, community and lifestyle to address the region's skills gap.	Government, regulation and information	Identify opportunities to address future regional housing supply needs through the Regional Housing Delivery Plan, including consideration of the impacts of major projects and different potential growth trajectories.	<b>DRNSW,</b> local councils, DPE Planning	Increase housing supply to enable population attraction.
	Infrastructure	Invest in liveability and amenities to attract relocating workers and families, including local retail and commercial offerings, recreational facilities, and transport connectivity.	<b>Local councils,</b> DRNSW, National Parks and Wildlife Services (NPWS), TfNSW, local business chambers	Improve the region's capacity to attract and retain key workers.



<p><b>Diversify the economy through emerging sectors including renewable energy.</b></p>	<p>Government, regulation and information</p>	<p>Support research and feasibility studies, including collaborating with Aboriginal land holders, to identify areas which can support renewable energy generation and storage projects.</p>	<p><b>Local councils,</b> DRNSW, DPE, Local Aboriginal Land Councils (LALCs), EnergyCo, North West Expert Panel</p>	<p>Supporting growth in renewable energy as a specialisation will help diversify the economy. and can unlock Aboriginal economic development opportunities.</p>
	<p>Government, regulation and information</p>	<p>Enhance the economic resilience of the agricultural industry by encouraging diversification, use of alternate sources of water and industry climate adaptation, as outlined in the Gwydir and Namoi Regional Water Strategies.</p>	<p><b>DPE Water,</b> local councils</p>	<p>Adapt to climate challenges by utilising the Gwydir Regional Water Strategy.</p>
	<p>Infrastructure</p>	<p>Support a diverse visitor economy by developing nature tourism opportunities and infrastructure through private, commercial and government partnerships.</p>	<p><b>Local councils,</b> NPWS, Destination NSW, DPE</p>	<p>Capitalise on the region's natural assets and endowments to support inclusive nature-based tourism.</p>

---

## 9. References

1. NSW Government (2022), *Natural Disaster declarations*, <https://www.nsw.gov.au/disaster-recovery/natural-disaster-declarations>
2. DRNSW (Department of Regional NSW) (2022), Grants data
3. Department of Planning, Industry and Environment (2021), *Gwydir Valley snapshot 2017-2020 Drought*, [https://www.industry.nsw.gov.au/\\_data/assets/pdf\\_file/0006/469257/Gwydir-Valley-snapshot-drought-2017-20-20210914.pdf](https://www.industry.nsw.gov.au/_data/assets/pdf_file/0006/469257/Gwydir-Valley-snapshot-drought-2017-20-20210914.pdf)
4. DRNSW (2020), REDS Bushfire Impact Addendum – Upper North West
5. Department of Customer Service (2022), Outcomes of Business Sentiment Survey
6. DSS (Department of Social Services) (2022), *DSS Payment Demographic Data*, <https://data.gov.au/data/dataset/dss-payment-demographic-data>
7. Tourism Research Australia (2022), *Visitor and Expenditure data*, [www.tra.gov.au/data-and-research](http://www.tra.gov.au/data-and-research)
8. Priest, E (2021), *CSIRO's Mouse alert app shows areas affected by the horrific mouse plague*, NCA Newswire, <https://www.news.com.au/technology/environment/csiros-mousealert-app-shows-areas-affected-by-horrific-mouse-plague/news-story/69151e89bbc0190072f5d668ef7a077f>
9. Corrigan, L (2021), *Should you be worried about the mouse plague?*, Moree Champion, <https://www.moreechampion.com.au/story/7297551/inside-the-attack-of-the-mice/>
10. NSW Government (2022), *Grant distribution – Mouse control rebate*, <https://www.service.nsw.gov.au/grants-and-payments-distribution/mouse-control-rebate-2021>
11. Oatway, L and Reading, K (2021), *NSW floods worsen with major flood warnings, rescues and pleas for people to play it safe*, ABC News, <https://www.abc.net.au/news/2021-11-29/nsw-floods-rescues-gunnedah-narrabri-namoi-river/100657640>
12. Tatham, H and Swanston, T (2022), *Residents in NSW town of Moree still 'marooned' and waiting to start tedious clean-up*, ABC News, <https://www.abc.net.au/news/2022-10-26/moree-begins-lengthy-clean-up-as-major-flood-levels-recede/101576850>
13. May, N and Touma, R (2022), *Narrabri evacuated as flood waters enter homes in saturated northern NSW*, The Guardian, <https://www.theguardian.com/environment/2022/oct/25/narrabri-evacuated-as-flood-waters-enter-homes-in-saturated-northern-nsw>
14. Bryant, M (2022), *The 2022 Moree Floods*, Rural and Remote Mental Health, <https://rrmh.com.au/the-2022-moree-floods/>
15. Mouratidis, K and Papagiannakis, A (2021), *COVID-19, internet, and mobility: The rise of telework, telehealth, e-learning, and e-shopping*, Sustainable Cities and Society 74(1), <https://www.sciencedirect.com/science/article/pii/S2210670721004637>
16. Australian Bureau of Statistics (2022), *More growth in the regions during the pandemic*, <https://www.abs.gov.au/media-centre/media-releases/more-growth-regions-during-pandemic>
17. Nissen, S et al. (2020), *Young people and environmental affordances in urban sustainable development: insights into transport and green and public space in seven cities*, Sustainable Earth Review 3(17), <https://sustainableearth.biomedcentral.com/articles/10.1186/s42055-020-00039-w>

18. AdaptNSW (2022), *Climate change will exacerbate natural disasters including flooding*, <https://www.climatechange.environment.nsw.gov.au/climate-change-will-exacerbate-natural-disasters-including-flooding>
19. DPE (Department of Planning and Environment) (2022), *Common Planning Assumptions – Population Projections*, <https://www.planning.nsw.gov.au/Research-and-Demography/Population-projections/Projections>
20. Department of Communities and Justice (2022), *Rent and Sales Report – interactive dashboard*, <https://www.facs.nsw.gov.au/resources/statistics/rent-and-sales/dashboard>
21. Realestate.com.au (2022), *Suburb profiles – Bingara and Warialda*, <https://www.realestate.com.au/nsw/warialda-2402/>
22. Analysis using ABS census and CoreLogic median dwelling price data
23. National Parks and Wildlife Service (2020), *Independent data on economic values of parks*.



Figure 19: Mount Kaputar National Park. Photo credit: Leah Pippas.